

### **REMARKS**

#### **Objection to the drawings**

In the Official Action the Examiner starts off with an objection to the drawings under 35 C.F.R. 1.83(a) because they fail to show the center position Y0 as mentioned in paragraphs 32 and 40 of the specification.

As the Examiner will note by reference to the specification amendments above, the paragraphs referred to by the Examiner have been amended, as have others for which there appeared indicia similar to Y0 in the specification but not in the drawings. The amendments made to the specification above are remove the references to Y0 and are also intended to address the other issues noted as well even though the Examiner did not raise them in the Official Action.

It is believed that the amendments made to the specification adequately address the issue which the Examiner had with the drawings.

#### **Rejections based on Prior Art**

In the Official Action the Examiner also rejects the claims on prior art grounds. The applicant believes, with all due respect to the Examiner, that the rejections do not comply with the requirements of MPEP 7078.07 and in particular MPEP 707.07(d) which requires that the grounds for rejection be "fully and clearly stated". For example, exactly what in Morikawa allegedly corresponds to the "first rectangular frame" recited in claim 1 as examined? The Examiner has the obligation to spell out what is on his mind in rejecting claims and to show where each and every limitation is allegedly met by the cited art.

Also, the Examiner's statement that "the checking pattern disclosed by Morikawa would function equally well as the checking pattern disclosed by the applicant", which even if true, is not a proper grounds for rejecting claims. The rejection is non-statutory.

Nevertheless, in the spirit of cooperation, the applicant has tried to understand the Examiner's comments and has amended the claims in a sincere effort to try to put this application in condition for allowance. However, should the Examiner decide to issue yet another Official Action, the Examiner is respectfully requested to ensure that the rejections are "fully and clearly stated" as required by the MPEP and moreover, to make the next Official Action non-final so as to give the applicant an opportunity to respond to the Examiner's rejections if the Applicant has misinterpreted the Examiner's comments when responding to the current Official Action.

**Rejections Under 35 U.S.C. 103(a) of Claims 1-6 and 11-16**

Claims 1-6 and 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morikawa (U.S. 5,308,682). Applicant asserts that amended claim 1 is patentable for the reasons discussed below.

The Examiner asserts that claim 1 is anticipated since Morikawa allegedly discloses a method of forming patterns used for alignment on four different layers, citing in Figures 1-5, the abstract, and column 5, lines 23-58. In addition, the Examiner asserts that Morikawa discloses that the check pattern can have "many different shapes including squares and rectangles and the shapes can be parallel" citing Figures 1-5, column 5 lines 50-58, and column 12, lines 3-64. Even assuming that is true, that does not mean that the claims are either anticipated or obvious over Morikawa.

**Amended claim 1 recites:**

1. A method of checking overlap accuracy of patterns on four stacked semiconductor

layers, comprising:

forming a first checking pattern on a first semiconductor layer, a second checking pattern on a second semiconductor layer, a third checking pattern on a third semiconductor layer and a fourth checking pattern on a fourth semiconductor layer, wherein the first, second and third checking patterns *in their entirety* overlap to form a first rectangular frame, the fourth checking pattern *in its entirety* is surrounded by the first rectangular frame, a first pair of parallel sides of the first rectangular frame is formed by the first checking pattern, and a second pair of parallel sides of the first rectangular frame is formed by the second and third checking patterns; measuring overlap accuracy between the fourth checking pattern and the first checking pattern; and measuring overlap accuracy between the fourth checking pattern and the second and third checking patterns. (*Emphasis Added*)

It is clear that the method of checking overlap accuracy of patterns on four stacked semiconductor layers of amended claim 1 comprises the first, second and third checking patterns *in their entirety* overlapping to form a first rectangular frame, and the fourth checking pattern *in its entirety* being surrounded by the first rectangular frame. This is shown in the present application where the first rectangle is identified by numeral 500 and the fourth checking pattern is identified by numeral 440.

As recited by Examiner, in Figures 1-5, column lines 5 lines 50-58, and column 12, lines 3-64, Morikawa discloses that the check pattern can have many different shapes including squares and rectangles and the shapes can be parallel. Morikawa, however, does not teach the first, second and third checking patterns *in their entirety* overlapping to form a first rectangular frame, and the fourth checking pattern *in its entirety* being surrounded by the first rectangular frame as recited in amended claim 1.

MPEP 2142 reads in part:

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. In re Vaec, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

In connection with the third criteria, MPEP 2143.03 goes on the state:

To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). "All words in a claim must be considered in judging the patentability of that claim against the prior art." In re Wilson, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970).

Applicant submits that Morikawa fails to teach or suggest all of the limitations recited in amended claim 1. For at least this reason, it is Applicant's belief that amended claim 1 is allowable over the cited reference. Reconsideration of this rejection is hereby respectfully requested.

For the same reasons described, Morikawa also fails to teach or suggest all of the limitations recited in amended claim 11. It is Applicant's belief that amended claim 11 is allowable over the cited reference. Reconsideration of this rejection is hereby respectfully requested.

**Rejections Under 35 U.S.C. 103(a) of Claims 7, 17 and 8, 10, 18-19.**

Claims 7 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morikawa (U.S.

5,308,682) in view of Ziger (U.S. 6,327,513).

Claims 8, 10 and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morikawa (U.S. 5,308,682) in view of Ziger (U.S. 6,327,513) and in further view of Suzuki et al (U.S. 5,189,707).

**New claim 20.**

New claim 20 is drafted somewhat differently than is claim 1, but it still includes the language emphasized above and therefore it is believed to distinguish itself from Morikawa.

Claim 1 and 11 are independent claims, on which claims 2-10 and 12-19 respectively depend. New claim 20 is also independent. Applicant asserts that amended claims 1 and 11 and new claim 20 are patentable for the reasons discussed, and therefore for at least the same reasons, claims 2-10 and 12-19 are patentable.

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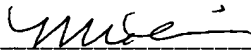
Reconsideration of this application as amended is respectfully requested.

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first-class mail in an envelope addressed to Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on

December 29, 2005

(Date of Deposit)

Mia Kim



(Signature)

12/29/05

(Date)

Respectfully submitted,



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